

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Westfield

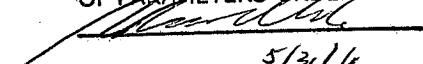
Westfield Executive Park

53 Southampton Road

Westfield, MA 01085

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CHECKED FOR COMPLETENESS  
OF PARAMETERS ORDERED BY:

  
5/3/14

TestAmerica Job ID: 360-32829-1

Client Project/Site: Olin Chemical Surface water Quarterly

For:

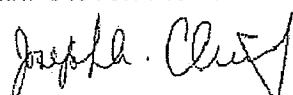
Olin Corporation

3855 North Ocoee Street

Suite 200

Cleveland, Tennessee 37312-4441.

Attn: Steven Morrow



Authorized for release by:

04/05/2011 10:24:00 AM

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Results relate only to the items tested and the sample(s) as received by the laboratory. The test results in this report meet all 2003 NELAC requirements for accredited parameters, exceptions are noted in this report. Pursuant to NELAC, this report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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# Case Narrative

Client: Olin Corporation  
Project/Site: Olin Chemical Surface water Quarterly

TestAmerica Job ID: 360-32829-1

## Job ID: 360-32829-1

### Laboratory: TestAmerica Westfield

#### Narrative

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

#### RECEIPT

The samples were received on 03/22/2011; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 4.8 C.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2 C of the required temperature or method specified range. For samples with a specified temperature of 4 C, samples with a temperature ranging from just above freezing temperature of water to 6 C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

#### TOTAL METALS (ICP)

Samples OC-SW-ISCO1 (360-32829-1), OC-SW-ISCO2 (360-32829-2), OC-SW-ISCO3 (360-32829-3), OC-SW-PZ-16RRSW (360-32829-4), OC-SW-PZ-17RRSW (360-32829-5), OC-SW-PZ-18RSW (360-32829-6) and OC-SW-SD-17 (360-32829-7) were analyzed for total metals (ICP) in accordance with EPA SW-846 Method 6010B. The samples were prepared and analyzed on 03/23/2011.

At the request of the client, an abbreviated/modified MCP analyte list was reported for this job.

No difficulties were encountered during the metals analyses.

All quality control parameters were within the acceptance limits.

#### DISSOLVED METALS

Samples OC-SW-ISCO1 (360-32829-1), OC-SW-ISCO2 (360-32829-2), OC-SW-ISCO3 (360-32829-3), OC-SW-PZ-16RRSW (360-32829-4), OC-SW-PZ-17RRSW (360-32829-5), OC-SW-PZ-18RSW (360-32829-6) and OC-SW-SD-17 (360-32829-7) were analyzed for dissolved metals in accordance with EPA SW-846 Method 6010B. The samples were analyzed on 03/24/2011.

At the request of the client, an abbreviated/modified MCP analyte list was reported for this job.

No difficulties were encountered during the dissolved metals analyses.

All quality control parameters were within the acceptance limits.

#### ANIONS

Samples OC-SW-ISCO1 (360-32829-1), OC-SW-ISCO2 (360-32829-2), OC-SW-ISCO3 (360-32829-3), OC-SW-PZ-16RRSW (360-32829-4), OC-SW-PZ-17RRSW (360-32829-5), OC-SW-PZ-18RSW (360-32829-6) and OC-SW-SD-17 (360-32829-7) were analyzed for anions in accordance with EPA Method 300.0. The samples were analyzed on 03/23/2011.

Samples OC-SW-ISCO1 (360-32829-1)[10X], OC-SW-ISCO2 (360-32829-2)[10X], OC-SW-ISCO3 (360-32829-3)[10X], OC-SW-PZ-16RRSW (360-32829-4)[10X], OC-SW-PZ-17RRSW (360-32829-5)[10X], OC-SW-PZ-18RSW (360-32829-6)[10X] and OC-SW-SD-17 (360-32829-7)[10X] required dilution prior to analysis due to high target concentration. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the anions analyses.

## Case Narrative

Client: Olin Corporation  
Project/Site: Olin Chemical Surface water Quarterly

TestAmerica Job ID: 360-32829-1

### Job ID: 360-32829-1 (Continued)

#### Laboratory: TestAmerica Westfield (Continued)

All quality control parameters were within the acceptance limits.

#### AMMONIA

Samples OC-SW-ISCO1 (360-32829-1), OC-SW-ISCO2 (360-32829-2), OC-SW-ISCO3 (360-32829-3), OC-SW-PZ-16RRSW (360-32829-4), OC-SW-PZ-17RRSW (360-32829-5), OC-SW-PZ-18RSW (360-32829-6) and OC-SW-SD-17 (360-32829-7) were analyzed for ammonia in accordance with Lachat 107-06-1B. The samples were prepared on 03/31/2011 and analyzed on 04/04/2011.

No difficulties were encountered during the ammonia analyses.

All quality control parameters were within the acceptance limits.

#### SPECIFIC CONDUCTIVITY

Samples OC-SW-ISCO1 (360-32829-1), OC-SW-ISCO2 (360-32829-2), OC-SW-ISCO3 (360-32829-3), OC-SW-PZ-16RRSW (360-32829-4), OC-SW-PZ-17RRSW (360-32829-5), OC-SW-PZ-18RSW (360-32829-6) and OC-SW-SD-17 (360-32829-7) were analyzed for specific conductivity in accordance with SM20 2510B. The samples were analyzed on 04/04/2011.

No difficulties were encountered during the conductivity analyses.

All quality control parameters were within the acceptance limits.

# MassDEP Analytical Protocol Certification Form

Laboratory Name:	TestAmerica Westfield		Project #:	360-32829-1		
Project Location:	RTN:					
<b>This form provides certifications for the following data set: list Laboratory Sample ID Number(s):</b>						
<b>360-32829-(1-7)</b>						
Matrices:	<input checked="" type="checkbox"/> Groundwater/Surface Water <input type="checkbox"/> Soil/Sediment <input type="checkbox"/> Drinking Water <input type="checkbox"/> Air <input type="checkbox"/> Other:					
<b>CAM Protocols (check all that apply below):</b>						
8260 VOC CAM II A <input type="checkbox"/>	7470/7471 Hg CAM III B <input type="checkbox"/>	Mass DEP VPH CAM IV A <input type="checkbox"/>	8081 Pesticides CAM V B <input type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>	Mass DEP APH CAM IX A <input type="checkbox"/>	
8270 SVOC CAM II B <input type="checkbox"/>	7010 Metals CAM III C <input type="checkbox"/>	Mass DEP EPH CAM IV B <input type="checkbox"/>	8151 Herbicides CAM V C <input type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>	TO-15 VOC CAM IX B <input type="checkbox"/>	
6010 Metals CAM III A <input checked="" type="checkbox"/>	6020 Metals CAM III D <input type="checkbox"/>	8082 PCB CAM V A <input type="checkbox"/>	9014 Total Cyanide/PAC CAM VI A <input type="checkbox"/>	332.0 Perchlorate CAM VIII B <input type="checkbox"/>		
<b>Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status</b>						
<b>A</b>	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding time.				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<b>B</b>	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<b>C</b>	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<b>D</b>	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<b>E</b>	a. VPH, EPH and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?				<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	
<b>F</b>	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<b>Responses to Questions G, H and I below are required for "Presumptive Certainty" status</b>						
<b>G</b>	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>	
<i>Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WCS-07-350</i>						
<b>H</b>	Were <b>all</b> QC performance standards specified in the CAM protocol(s) achieved?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<b>I</b>	Were results reported for the complete analyte list specified in the selected CAM protocol(s) ?				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<sup>1</sup> All negative responses must be addressed in an attached laboratory narrative.						
<i>I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, is accurate and complete.</i>						
Signature:				Position:	Laboratory Director	
Printed Name:	Steven C. Hartmann			Date:	4/5/11 8:47	
This form has been electronically signed and approved						

# Detection Summary

Client: Olin Corporation

TestAmerica Job ID: 360-32829-1

Project/Site: Olin Chemical Surface water Quarterly

## Client Sample ID: OC-SW-ISCO1

## Lab Sample ID: 360-32829-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	170		100	12	ug/L	1	6010B		Dissolved
Chromium	13		5.0	0.65	ug/L	1	6010B		Dissolved
Sodium	94000		2000	280	ug/L	1	6010B		Dissolved
Aluminum	260		100	12	ug/L	1	6010B		Total/NA
Chromium	16		5.0	0.65	ug/L	1	6010B		Total/NA
Sodium	88000		2000	280	ug/L	1	6010B		Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Nitrate as N	0.36		0.050	0.050	mg/L	1	300.0		Total/NA
Sulfate	68		2.0	2.0	mg/L	1	300.0		Total/NA
Chloride	140		10	10	mg/L	10	300.0		Total/NA
Ammonia	14		0.10	0.10	mg/L	1	L107-06-1B		Total/NA
Specific Conductance	700		1.0	1.0	umhos/cm	1	SM 2510B		Total/NA

## Client Sample ID: OC-SW-ISCO2

## Lab Sample ID: 360-32829-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	360		100	12	ug/L	1	6010B		Dissolved
Chromium	49		5.0	0.65	ug/L	1	6010B		Dissolved
Sodium	76000		2000	280	ug/L	1	6010B		Dissolved
Aluminum	1700		100	12	ug/L	1	6010B		Total/NA
Chromium	260		5.0	0.65	ug/L	1	6010B		Total/NA
Sodium	73000		2000	280	ug/L	1	6010B		Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Nitrate as N	1.0		0.050	0.050	mg/L	1	300.0		Total/NA
Sulfate	130		20	20	mg/L	10	300.0		Total/NA
Chloride	90		10	10	mg/L	10	300.0		Total/NA
Ammonia	19		0.10	0.10	mg/L	1	L107-06-1B		Total/NA
Specific Conductance	720		1.0	1.0	umhos/cm	1	SM 2510B		Total/NA

## Client Sample ID: OC-SW-ISCO3

## Lab Sample ID: 360-32829-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	45	J	100	12	ug/L	1	6010B		Dissolved
Sodium	120000		2000	280	ug/L	1	6010B		Dissolved
Aluminum	230		100	12	ug/L	1	6010B		Total/NA
Chromium	1.3	J	5.0	0.65	ug/L	1	6010B		Total/NA
Sodium	100000		2000	280	ug/L	1	6010B		Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Nitrate as N	0.93		0.050	0.050	mg/L	1	300.0		Total/NA
Sulfate	53		2.0	2.0	mg/L	1	300.0		Total/NA
Chloride	210		10	10	mg/L	10	300.0		Total/NA
Ammonia	5.3		0.10	0.10	mg/L	1	L107-06-1B		Total/NA
Specific Conductance	910		1.0	1.0	umhos/cm	1	SM 2510B		Total/NA

## Client Sample ID: OC-SW-PZ-16RRSW

## Lab Sample ID: 360-32829-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	460		100	12	ug/L	1	6010B		Dissolved
Chromium	120		5.0	0.65	ug/L	1	6010B		Dissolved
Sodium	100000		2000	280	ug/L	1	6010B		Dissolved
Aluminum	1800		100	12	ug/L	1	6010B		Total/NA
Chromium	380		5.0	0.65	ug/L	1	6010B		Total/NA
Sodium	85000		2000	280	ug/L	1	6010B		Total/NA

TestAmerica Westfield

# Detection Summary

Client: Olin Corporation

TestAmerica Job ID: 360-32829-1

Project/Site: Olin Chemical Surface water Quarterly

## Client Sample ID: OC-SW-PZ-16RRSW (Continued)

Lab Sample ID: 360-32829-4

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Nitrate as N	1.4		0.050	0.050	mg/L	1	300.0		Total/NA
Sulfate	120		20	20	mg/L	10	300.0		Total/NA
Chloride	130		10	10	mg/L	10	300.0		Total/NA
Ammonia	19		0.10	0.10	mg/L	1	L107-06-1B		Total/NA
Specific Conductance	820		1.0	1.0	umhos/cm	1	SM 2510B		Total/NA

## Client Sample ID: OC-SW-PZ-17RRSW

Lab Sample ID: 360-32829-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	390		100	12	ug/L	1	6010B		Dissolved
Chromium	120		5.0	0.65	ug/L	1	6010B		Dissolved
Sodium	110000		2000	280	ug/L	1	6010B		Dissolved
Aluminum	1300		100	12	ug/L	1	6010B		Total/NA
Chromium	300		5.0	0.65	ug/L	1	6010B		Total/NA
Sodium	98000		2000	280	ug/L	1	6010B		Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Nitrate as N	1.9		0.050	0.050	mg/L	1	300.0		Total/NA
Sulfate	120		20	20	mg/L	10	300.0		Total/NA
Chloride	160		10	10	mg/L	10	300.0		Total/NA
Ammonia	17		0.10	0.10	mg/L	1	L107-06-1B		Total/NA
Specific Conductance	900		1.0	1.0	umhos/cm	1	SM 2510B		Total/NA

## Client Sample ID: OC-SW-PZ-18RSW

Lab Sample ID: 360-32829-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	170		100	12	ug/L	1	6010B		Dissolved
Chromium	13		5.0	0.65	ug/L	1	6010B		Dissolved
Sodium	92000		2000	280	ug/L	1	6010B		Dissolved
Aluminum	250		100	12	ug/L	1	6010B		Total/NA
Chromium	16		5.0	0.65	ug/L	1	6010B		Total/NA
Sodium	86000		2000	280	ug/L	1	6010B		Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Nitrate as N	0.43		0.050	0.050	mg/L	1	300.0		Total/NA
Sulfate	75		2.0	2.0	mg/L	1	300.0		Total/NA
Chloride	150		10	10	mg/L	10	300.0		Total/NA
Ammonia	14		0.10	0.10	mg/L	1	L107-06-1B		Total/NA
Specific Conductance	690		1.0	1.0	umhos/cm	1	SM 2510B		Total/NA

## Client Sample ID: OC-SW-SD-17

Lab Sample ID: 360-32829-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	110		100	12	ug/L	1	6010B		Dissolved
Chromium	58		5.0	0.65	ug/L	1	6010B		Dissolved
Sodium	120000		2000	280	ug/L	1	6010B		Dissolved
Aluminum	1300		100	12	ug/L	1	6010B		Total/NA
Chromium	300		5.0	0.65	ug/L	1	6010B		Total/NA
Sodium	100000		2000	280	ug/L	1	6010B		Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Nitrate as N	2.3		0.050	0.050	mg/L	1	300.0		Total/NA
Sulfate	130		20	20	mg/L	10	300.0		Total/NA
Chloride	170		10	10	mg/L	10	300.0		Total/NA
Ammonia	18		0.10	0.10	mg/L	1	L107-06-1B		Total/NA
Specific Conductance	940		1.0	1.0	umhos/cm	1	SM 2510B		Total/NA

TestAmerica Westfield

## Method Summary

Client: Olin Corporation  
Project/Site: Olin Chemical Surface water Quarterly

TestAmerica Job ID: 360-32829-1

Method	Method Description	Protocol	Laboratory
6010B	Total Metals	SW846	TAL WFD
6010B	Dissolved Metals	SW846	TAL WFD
300.0	Nitrate & Nitrite	40CFR136A	TAL WFD
300.0	Chloride & Sulfate	40CFR136A	TAL WFD
L107-06-1B	Nitrogen Ammonia	LACHAT	TAL WFD
SM 2510B	Conductivity, Specific Conductance	SM	TAL WFD

### Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

LACHAT = LACHAT

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL WFD = TestAmerica Westfield, Westfield Executive Park, 53 Southampton Road, Westfield, MA 01085, TEL (413)572-4000

## Sample Summary

Client: Olin Corporation

Project/Site: Olin Chemical Surface water Quarterly

TestAmerica Job ID: 360-32829-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
360-32829-1	OC-SW-ISCO1	Water	03/22/11 10:50	03/22/11 17:30
360-32829-2	OC-SW-ISCO2	Water	03/22/11 09:25	03/22/11 17:30
360-32829-3	OC-SW-ISCO3	Water	03/22/11 09:15	03/22/11 17:30
360-32829-4	OC-SW-PZ-16RRSW	Water	03/22/11 09:45	03/22/11 17:30
360-32829-5	OC-SW-PZ-17RRSW	Water	03/22/11 10:05	03/22/11 17:30
360-32829-6	OC-SW-PZ-18RSW	Water	03/22/11 10:40	03/22/11 17:30
360-32829-7	OC-SW-SD-17	Water	03/22/11 10:20	03/22/11 17:30

# Analytical Data

Client: Olin Corporation  
Project/Site: Olin Chemical Surface water Quarterly

TestAmerica Job ID: 360-32829-1

## Method: 6010B - Dissolved Metals - Dissolved

**Client Sample ID: OC-SW-ISCO1**

**Date Collected: 03/22/11 10:50**

**Date Received: 03/22/11 17:30**

**Lab Sample ID: 360-32829-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	170		100	12	ug/L			03/24/11 11:59	1
Chromium	13		5.0	0.65	ug/L			03/24/11 11:59	1
Sodium	94000		2000	280	ug/L			03/24/11 11:59	1

**Client Sample ID: OC-SW-ISCO2**

**Date Collected: 03/22/11 09:25**

**Date Received: 03/22/11 17:30**

**Lab Sample ID: 360-32829-2**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	360		100	12	ug/L			03/24/11 12:02	1
Chromium	49		5.0	0.65	ug/L			03/24/11 12:02	1
Sodium	76000		2000	280	ug/L			03/24/11 12:02	1

**Client Sample ID: OC-SW-ISCO3**

**Date Collected: 03/22/11 09:15**

**Date Received: 03/22/11 17:30**

**Lab Sample ID: 360-32829-3**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	45	J	100	12	ug/L			03/24/11 12:05	1
Chromium	ND		5.0	0.65	ug/L			03/24/11 12:05	1
Sodium	120000		2000	280	ug/L			03/24/11 12:05	1

**Client Sample ID: OC-SW-PZ-16RRSW**

**Date Collected: 03/22/11 09:45**

**Date Received: 03/22/11 17:30**

**Lab Sample ID: 360-32829-4**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	460		100	12	ug/L			03/24/11 12:08	1
Chromium	120		5.0	0.65	ug/L			03/24/11 12:08	1
Sodium	100000		2000	280	ug/L			03/24/11 12:08	1

**Client Sample ID: OC-SW-PZ-17RRSW**

**Date Collected: 03/22/11 10:05**

**Date Received: 03/22/11 17:30**

**Lab Sample ID: 360-32829-5**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	390		100	12	ug/L			03/24/11 12:10	1
Chromium	120		5.0	0.65	ug/L			03/24/11 12:10	1
Sodium	110000		2000	280	ug/L			03/24/11 12:10	1

**Client Sample ID: OC-SW-PZ-18RSW**

**Date Collected: 03/22/11 10:40**

**Date Received: 03/22/11 17:30**

**Lab Sample ID: 360-32829-6**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	170		100	12	ug/L			03/24/11 12:13	1
Chromium	13		5.0	0.65	ug/L			03/24/11 12:13	1
Sodium	92000		2000	280	ug/L			03/24/11 12:13	1

**Client Sample ID: OC-SW-SD-17**

**Date Collected: 03/22/11 10:20**

**Date Received: 03/22/11 17:30**

**Lab Sample ID: 360-32829-7**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	110		100	12	ug/L			03/24/11 12:16	1
Chromium	58		5.0	0.65	ug/L			03/24/11 12:16	1
Sodium	120000		2000	280	ug/L			03/24/11 12:16	1

# Analytical Data

Client: Olin Corporation  
Project/Site: Olin Chemical Surface water Quarterly

TestAmerica Job ID: 360-32829-1

## Method: 6010B - Total Metals

**Client Sample ID: OC-SW-ISCO1**

**Date Collected: 03/22/11 10:50**

**Date Received: 03/22/11 17:30**

**Lab Sample ID: 360-32829-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	260		100	12	ug/L		03/23/11 09:30	03/23/11 15:32	1
Chromium	16		5.0	0.65	ug/L		03/23/11 09:30	03/23/11 15:32	1
Sodium	88000		2000	280	ug/L		03/23/11 09:30	03/23/11 15:32	1

**Client Sample ID: OC-SW-ISCO2**

**Date Collected: 03/22/11 09:25**

**Date Received: 03/22/11 17:30**

**Lab Sample ID: 360-32829-2**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	1700		100	12	ug/L		03/23/11 09:30	03/23/11 15:46	1
Chromium	260		5.0	0.65	ug/L		03/23/11 09:30	03/23/11 15:46	1
Sodium	73000		2000	280	ug/L		03/23/11 09:30	03/23/11 15:46	1

**Client Sample ID: OC-SW-ISCO3**

**Date Collected: 03/22/11 09:15**

**Date Received: 03/22/11 17:30**

**Lab Sample ID: 360-32829-3**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	230		100	12	ug/L		03/23/11 09:30	03/23/11 15:55	1
Chromium	1.3 J		5.0	0.65	ug/L		03/23/11 09:30	03/23/11 15:55	1
Sodium	100000		2000	280	ug/L		03/23/11 09:30	03/23/11 15:55	1

**Client Sample ID: OC-SW-PZ-16RRSW**

**Date Collected: 03/22/11 09:45**

**Date Received: 03/22/11 17:30**

**Lab Sample ID: 360-32829-4**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	1800		100	12	ug/L		03/23/11 09:30	03/23/11 15:58	1
Chromium	380		5.0	0.65	ug/L		03/23/11 09:30	03/23/11 15:58	1
Sodium	85000		2000	280	ug/L		03/23/11 09:30	03/23/11 15:58	1

**Client Sample ID: OC-SW-PZ-17RRSW**

**Date Collected: 03/22/11 10:05**

**Date Received: 03/22/11 17:30**

**Lab Sample ID: 360-32829-5**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	1300		100	12	ug/L		03/23/11 09:30	03/23/11 16:01	1
Chromium	300		5.0	0.65	ug/L		03/23/11 09:30	03/23/11 16:01	1
Sodium	98000		2000	280	ug/L		03/23/11 09:30	03/23/11 16:01	1

**Client Sample ID: OC-SW-PZ-18RSW**

**Date Collected: 03/22/11 10:40**

**Date Received: 03/22/11 17:30**

**Lab Sample ID: 360-32829-6**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	250		100	12	ug/L		03/23/11 09:30	03/23/11 16:04	1
Chromium	16		5.0	0.65	ug/L		03/23/11 09:30	03/23/11 16:04	1
Sodium	86000		2000	280	ug/L		03/23/11 09:30	03/23/11 16:04	1

**Client Sample ID: OC-SW-SD-17**

**Date Collected: 03/22/11 10:20**

**Date Received: 03/22/11 17:30**

**Lab Sample ID: 360-32829-7**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	1300		100	12	ug/L		03/23/11 09:30	03/23/11 16:07	1
Chromium	300		5.0	0.65	ug/L		03/23/11 09:30	03/23/11 16:07	1
Sodium	100000		2000	280	ug/L		03/23/11 09:30	03/23/11 16:07	1

TestAmerica Westfield

# Analytical Data

Client: Olin Corporation  
Project/Site: Olin Chemical Surface water Quarterly

TestAmerica Job ID: 360-32829-1

## General Chemistry

**Client Sample ID: OC-SW-ISCO1**

**Date Collected: 03/22/11 10:50**

**Date Received: 03/22/11 17:30**

**Lab Sample ID: 360-32829-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.36		0.050	0.050	mg/L			03/23/11 10:33	1
Sulfate	68		2.0	2.0	mg/L			03/23/11 10:33	1
Chloride	140		10	10	mg/L			03/23/11 10:48	10
Nitrite as N	ND		0.10	0.10	mg/L			03/23/11 10:48	10
Ammonia	14		0.10	0.10	mg/L	03/31/11 11:59	04/04/11 13:32	1	
Specific Conductance	700		1.0	1.0	umhos/cm			04/04/11 11:06	1

**Client Sample ID: OC-SW-ISCO2**

**Date Collected: 03/22/11 09:25**

**Date Received: 03/22/11 17:30**

**Lab Sample ID: 360-32829-2**

**Matrix: Water**

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	1.0		0.050	0.050	mg/L			03/23/11 11:03	1
Sulfate	130		20	20	mg/L			03/23/11 11:18	10
Chloride	90		10	10	mg/L			03/23/11 11:18	10
Nitrite as N	ND		0.10	0.10	mg/L			03/23/11 11:18	10
Ammonia	19		0.10	0.10	mg/L	03/31/11 11:59	04/04/11 13:33	1	
Specific Conductance	720		1.0	1.0	umhos/cm			04/04/11 11:09	1

**Client Sample ID: OC-SW-ISCO3**

**Date Collected: 03/22/11 09:15**

**Date Received: 03/22/11 17:30**

**Lab Sample ID: 360-32829-3**

**Matrix: Water**

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.93		0.050	0.050	mg/L			03/23/11 11:33	1
Sulfate	53		2.0	2.0	mg/L			03/23/11 11:33	1
Chloride	210		10	10	mg/L			03/23/11 11:48	10
Nitrite as N	ND		0.10	0.10	mg/L			03/23/11 11:48	10
Ammonia	5.3		0.10	0.10	mg/L	03/31/11 11:59	04/04/11 13:34	1	
Specific Conductance	910		1.0	1.0	umhos/cm			04/04/11 11:10	1

**Client Sample ID: OC-SW-PZ-16RRSW**

**Date Collected: 03/22/11 09:45**

**Date Received: 03/22/11 17:30**

**Lab Sample ID: 360-32829-4**

**Matrix: Water**

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	1.4		0.050	0.050	mg/L			03/23/11 12:03	1
Sulfate	120		20	20	mg/L			03/23/11 12:18	10
Chloride	130		10	10	mg/L			03/23/11 12:18	10
Nitrite as N	ND		0.10	0.10	mg/L			03/23/11 12:18	10
Ammonia	19		0.10	0.10	mg/L	03/31/11 11:59	04/04/11 13:35	1	
Specific Conductance	820		1.0	1.0	umhos/cm			04/04/11 11:11	1

**Client Sample ID: OC-SW-PZ-17RRSW**

**Date Collected: 03/22/11 10:05**

**Date Received: 03/22/11 17:30**

**Lab Sample ID: 360-32829-5**

**Matrix: Water**

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	1.9		0.050	0.050	mg/L			03/23/11 12:33	1
Sulfate	120		20	20	mg/L			03/23/11 17:19	10
Chloride	160		10	10	mg/L			03/23/11 17:19	10
Nitrite as N	ND		0.10	0.10	mg/L			03/23/11 17:19	10
Ammonia	17		0.10	0.10	mg/L	03/31/11 11:59	04/04/11 13:36	1	
Specific Conductance	900		1.0	1.0	umhos/cm			04/04/11 11:13	1

# Analytical Data

Client: Olin Corporation

TestAmerica Job ID: 360-32829-1

Project/Site: Olin Chemical Surface water Quarterly

## General Chemistry

**Client Sample ID: OC-SW-PZ-18RSW**

**Lab Sample ID: 360-32829-6**

**Matrix: Water**

**Date Collected: 03/22/11 10:40**

**Date Received: 03/22/11 17:30**

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.43		0.050	0.050	mg/L			03/23/11 18:04	1
Sulfate	75		2.0	2.0	mg/L			03/23/11 18:04	1
Chloride	150		10	10	mg/L			03/23/11 18:19	10
Nitrite as N	ND		0.10	0.10	mg/L			03/23/11 18:19	10
Ammonia	14		0.10	0.10	mg/L	03/31/11 11:59	04/04/11 13:39		1
Specific Conductance	690		1.0	1.0	umhos/cm			04/04/11 11:14	1

**Client Sample ID: OC-SW-SD-17**

**Lab Sample ID: 360-32829-7**

**Matrix: Water**

**Date Collected: 03/22/11 10:20**

**Date Received: 03/22/11 17:30**

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	2.3		0.050	0.050	mg/L			03/23/11 18:34	1
Sulfate	130		20	20	mg/L			03/23/11 18:49	10
Chloride	170		10	10	mg/L			03/23/11 18:49	10
Nitrite as N	ND		0.10	0.10	mg/L			03/23/11 18:49	10
Ammonia	18		0.10	0.10	mg/L	03/31/11 11:59	04/04/11 13:39		1
Specific Conductance	940		1.0	1.0	umhos/cm			04/04/11 16:34	1

# Qualifier Definition/Glossary

Client: Olin Corporation

Project/Site: Olin Chemical Surface water Quarterly

TestAmerica Job ID: 360-32829-1

## Qualifiers

### Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
✉	Listed under the "D" column to designate that the result is reported on a dry weight basis.
EPA	United States Environmental Protection Agency
ND	Not Detected above the reporting level.
MDL	Method Detection Limit
RL	Reporting Limit
RE, RE1 (etc.)	Indicates a Re-extraction or Reanalysis of the sample.
%R	Percent Recovery
RPD	Relative Percent Difference, a measure of the relative difference between two points.

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# QC Association Summary

Client: Olin Corporation

Project/Site: Olin Chemical Surface water Quarterly

TestAmerica Job ID: 360-32829-1

## Metals

### Prep Batch: 70861

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 360-70861/1-A	MB 360-70861/1-A	Total/NA	Water	3010A	
360-32829-5	OC-SW-PZ-17RRSW	Total/NA	Water	3010A	
360-32829-6	OC-SW-PZ-18RSW	Total/NA	Water	3010A	
360-32829-7	OC-SW-SD-17	Total/NA	Water	3010A	
LCS 360-70861/2-A	LCS 360-70861/2-A	Total/NA	Water	3010A	
LCSD 360-70861/3-A	LCSD 360-70861/3-A	Total/NA	Water	3010A	
360-32829-1	OC-SW-ISCO1	Total/NA	Water	3010A	
360-32829-1 DU	OC-SW-ISCO1	Total/NA	Water	3010A	
360-32829-1 MS	OC-SW-ISCO1	Total/NA	Water	3010A	
360-32829-2	OC-SW-ISCO2	Total/NA	Water	3010A	
360-32829-3	OC-SW-ISCO3	Total/NA	Water	3010A	
360-32829-4	OC-SW-PZ-16RRSW	Total/NA	Water	3010A	

### Analysis Batch: 70907

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
360-32829-2	OC-SW-ISCO2	Total/NA	Water	6010B	70861
360-32829-3	OC-SW-ISCO3	Total/NA	Water	6010B	70861
360-32829-4	OC-SW-PZ-16RRSW	Total/NA	Water	6010B	70861
360-32829-5	OC-SW-PZ-17RRSW	Total/NA	Water	6010B	70861
360-32829-6	OC-SW-PZ-18RSW	Total/NA	Water	6010B	70861
360-32829-7	OC-SW-SD-17	Total/NA	Water	6010B	70861
MB 360-70861/1-A	MB 360-70861/1-A	Total/NA	Water	6010B	70861
LCS 360-70861/2-A	LCS 360-70861/2-A	Total/NA	Water	6010B	70861
LCSD 360-70861/3-A	LCSD 360-70861/3-A	Total/NA	Water	6010B	70861
360-32829-1	OC-SW-ISCO1	Total/NA	Water	6010B	70861
360-32829-1 DU	OC-SW-ISCO1	Total/NA	Water	6010B	70861
360-32829-1 MS	OC-SW-ISCO1	Total/NA	Water	6010B	70861

### Analysis Batch: 70948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 360-70948/13	LCS 360-70948/13	Total/NA	Water	6010B	
MB 360-70948/14	MB 360-70948/14	Total/NA	Water	6010B	
LCSD 360-70948/26	LCSD 360-70948/26	Total/NA	Water	6010B	
360-32829-1	OC-SW-ISCO1	Dissolved	Water	6010B	
360-32829-2	OC-SW-ISCO2	Dissolved	Water	6010B	
360-32829-3	OC-SW-ISCO3	Dissolved	Water	6010B	
360-32829-4	OC-SW-PZ-16RRSW	Dissolved	Water	6010B	
360-32829-5	OC-SW-PZ-17RRSW	Dissolved	Water	6010B	
360-32829-6	OC-SW-PZ-18RSW	Dissolved	Water	6010B	
360-32829-7	OC-SW-SD-17	Dissolved	Water	6010B	

## General Chemistry

### Analysis Batch: 70962

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
360-32829-1	OC-SW-ISCO1	Total/NA	Water	300.0	
360-32829-1	OC-SW-ISCO1	Total/NA	Water	300.0	
360-32829-2	OC-SW-ISCO2	Total/NA	Water	300.0	
360-32829-2	OC-SW-ISCO2	Total/NA	Water	300.0	
360-32829-3	OC-SW-ISCO3	Total/NA	Water	300.0	
360-32829-3	OC-SW-ISCO3	Total/NA	Water	300.0	
360-32829-4	OC-SW-PZ-16RRSW	Total/NA	Water	300.0	

# QC Association Summary

Client: Olin Corporation

Project/Site: Olin Chemical Surface water Quarterly

TestAmerica Job ID: 360-32829-1

## General Chemistry (Continued)

### Analysis Batch: 70962 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
360-32829-4	OC-SW-PZ-16RRSW	Total/NA	Water	300.0	
360-32829-5	OC-SW-PZ-17RRSW	Total/NA	Water	300.0	
MB 360-70962/5	MB 360-70962/5	Total/NA	Water	300.0	
LCS 360-70962/6	LCS 360-70962/6	Total/NA	Water	300.0	

### Analysis Batch: 71003

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
360-32829-1	OC-SW-ISCO1	Total/NA	Water	300.0	
360-32829-1	OC-SW-ISCO1	Total/NA	Water	300.0	
360-32829-2	OC-SW-ISCO2	Total/NA	Water	300.0	
360-32829-3	OC-SW-ISCO3	Total/NA	Water	300.0	
360-32829-3	OC-SW-ISCO3	Total/NA	Water	300.0	
360-32829-4	OC-SW-PZ-16RRSW	Total/NA	Water	300.0	
MB 360-71003/5	MB 360-71003/5	Total/NA	Water	300.0	
LCS 360-71003/6	LCS 360-71003/6	Total/NA	Water	300.0	

### Analysis Batch: 71004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
360-32829-7	OC-SW-SD-17	Total/NA	Water	300.0	
360-32829-7	OC-SW-SD-17	Total/NA	Water	300.0	
MB 360-71004/3	MB 360-71004/3	Total/NA	Water	300.0	
LCS 360-71004/4	LCS 360-71004/4	Total/NA	Water	300.0	
360-32829-5	OC-SW-PZ-17RRSW	Total/NA	Water	300.0	
360-32829-5 MS	OC-SW-PZ-17RRSW	Total/NA	Water	300.0	
360-32829-5 MSD	OC-SW-PZ-17RRSW	Total/NA	Water	300.0	
360-32829-6	OC-SW-PZ-18RSW	Total/NA	Water	300.0	
360-32829-6	OC-SW-PZ-18RSW	Total/NA	Water	300.0	

### Analysis Batch: 71005

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
360-32829-7	OC-SW-SD-17	Total/NA	Water	300.0	
MB 360-71005/3	MB 360-71005/3	Total/NA	Water	300.0	
LCS 360-71005/4	LCS 360-71005/4	Total/NA	Water	300.0	
360-32829-5	OC-SW-PZ-17RRSW	Total/NA	Water	300.0	
360-32829-5 MS	OC-SW-PZ-17RRSW	Total/NA	Water	300.0	
360-32829-5 MSD	OC-SW-PZ-17RRSW	Total/NA	Water	300.0	
360-32829-6	OC-SW-PZ-18RSW	Total/NA	Water	300.0	
360-32829-6	OC-SW-PZ-18RSW	Total/NA	Water	300.0	

### Prep Batch: 71263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 360-71263/1-A	MB 360-71263/1-A	Total/NA	Water	Distill/Ammonia	
360-32829-5	OC-SW-PZ-17RRSW	Total/NA	Water	Distill/Ammonia	
360-32829-6	OC-SW-PZ-18RSW	Total/NA	Water	Distill/Ammonia	
360-32829-7	OC-SW-SD-17	Total/NA	Water	Distill/Ammonia	
LCS 360-71263/2-A	LCS 360-71263/2-A	Total/NA	Water	Distill/Ammonia	
360-32829-1	OC-SW-ISCO1	Total/NA	Water	Distill/Ammonia	
360-32829-2	OC-SW-ISCO2	Total/NA	Water	Distill/Ammonia	
360-32829-3	OC-SW-ISCO3	Total/NA	Water	Distill/Ammonia	
360-32829-4	OC-SW-PZ-16RRSW	Total/NA	Water	Distill/Ammonia	

# QC Association Summary

Client: Olin Corporation

TestAmerica Job ID: 360-32829-1

Project/Site: Olin Chemical Surface water Quarterly

## General Chemistry (Continued)

### Analysis Batch: 71404

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 360-71404/1	LCS 360-71404/1	Total/NA	Water	SM 2510B	
360-32829-6	OC-SW-PZ-18RSW	Total/NA	Water	SM 2510B	
MB 360-71404/3	MB 360-71404/3	Total/NA	Water	SM 2510B	
360-32829-1	OC-SW-ISCO1	Total/NA	Water	SM 2510B	
360-32829-1 DU	OC-SW-ISCO1	Total/NA	Water	SM 2510B	
360-32829-2	OC-SW-ISCO2	Total/NA	Water	SM 2510B	
360-32829-3	OC-SW-ISCO3	Total/NA	Water	SM 2510B	
360-32829-4	OC-SW-PZ-16RRSW	Total/NA	Water	SM 2510B	
360-32829-5	OC-SW-PZ-17RRSW	Total/NA	Water	SM 2510B	

### Analysis Batch: 71427

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
360-32829-3	OC-SW-ISCO3	Total/NA	Water	L107-06-1B	71263
360-32829-4	OC-SW-PZ-16RRSW	Total/NA	Water	L107-06-1B	71263
360-32829-5	OC-SW-PZ-17RRSW	Total/NA	Water	L107-06-1B	71263
360-32829-6	OC-SW-PZ-18RSW	Total/NA	Water	L107-06-1B	71263
360-32829-7	OC-SW-SD-17	Total/NA	Water	L107-06-1B	71263
MB 360-71263/1-A	MB 360-71263/1-A	Total/NA	Water	L107-06-1B	71263
LCS 360-71263/2-A	LCS 360-71263/2-A	Total/NA	Water	L107-06-1B	71263
360-32829-1	OC-SW-ISCO1	Total/NA	Water	L107-06-1B	71263
360-32829-2	OC-SW-ISCO2	Total/NA	Water	L107-06-1B	71263

### Analysis Batch: 71443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 360-71443/1	LCS 360-71443/1	Total/NA	Water	SM 2510B	
MB 360-71443/3	MB 360-71443/3	Total/NA	Water	SM 2510B	
360-32829-7	OC-SW-SD-17	Total/NA	Water	SM 2510B	
360-32829-7 DU	OC-SW-SD-17	Total/NA	Water	SM 2510B	

# Quality Control Data

Client: Olin Corporation

Project/Site: Olin Chemical Surface water Quarterly

TestAmerica Job ID: 360-32829-1

## Method: 6010B - Total Metals

**Lab Sample ID: MB 360-70861/1-A**

**Matrix: Water**

**Analysis Batch: 70907**

**Client Sample ID: MB 360-70861/1-A**

**Prep Type: Total/NA**

**Prep Batch: 70861**

Analyte	MB	MB	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier									
Aluminum	ND		100		12	ug/L			03/23/11 09:30	03/23/11 15:22	1
Chromium	ND		5.0		0.65	ug/L			03/23/11 09:30	03/23/11 15:22	1
Sodium	ND		2000		280	ug/L			03/23/11 09:30	03/23/11 15:22	1

**Lab Sample ID: LCS 360-70861/2-A**

**Matrix: Water**

**Analysis Batch: 70907**

**Client Sample ID: LCS 360-70861/2-A**

**Prep Type: Total/NA**

**Prep Batch: 70861**

Analyte	MB	MB	Spike	Added	LCS	LCS	Unit	D	% Rec	Limits	% Rec.
	Result	Qualifier									
Aluminum	ND		5000		5090		ug/L		102	80 - 120	
Chromium	ND		1000		1010		ug/L		101	80 - 120	
Sodium	ND		20000		19700		ug/L		99	80 - 120	

**Lab Sample ID: LCSD 360-70861/3-A**

**Matrix: Water**

**Analysis Batch: 70907**

**Client Sample ID: LCSD 360-70861/3-A**

**Prep Type: Total/NA**

**Prep Batch: 70861**

Analyte	MB	MB	Spike	Added	LCSD	LCSD	Unit	D	% Rec	Limits	% Rec.
	Result	Qualifier									
Aluminum	ND		5000		5150		ug/L		103	80 - 120	1
Chromium	ND		1000		1020		ug/L		102	80 - 120	1
Sodium	ND		20000		20000		ug/L		100	80 - 120	1

**Lab Sample ID: 360-32829-1 MS**

**Matrix: Water**

**Analysis Batch: 70907**

**Client Sample ID: OC-SW-ISCO1**

**Prep Type: Total/NA**

**Prep Batch: 70861**

Analyte	Sample	Sample	Spike	Added	MS	MS	Unit	D	% Rec	Limits	% Rec.
	Result	Qualifier									
Aluminum	260		5000		5520		ug/L		105	75 - 125	
Chromium	16		1000		1040		ug/L		102	75 - 125	
Sodium	88000		20000		105000	4	ug/L		84	75 - 125	

**Lab Sample ID: 360-32829-1 DU**

**Matrix: Water**

**Analysis Batch: 70907**

**Client Sample ID: OC-SW-ISCO1**

**Prep Type: Total/NA**

**Prep Batch: 70861**

Analyte	Sample	Sample	DU	DU	Result	Qualifier	Unit	D	RPD	Limit
	Result	Qualifier								
Aluminum	260		240				ug/L		8	20
Chromium	16		14.4				ug/L		9	20
Sodium	88000		82200				ug/L		7	20

**Lab Sample ID: MB 360-70948/14**

**Matrix: Water**

**Analysis Batch: 70948**

**Client Sample ID: MB 360-70948/14**

**Prep Type: Total/NA**

Analyte	MB	MB	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier									
Aluminum	ND		100		12	ug/L			03/24/11 11:08		1
Chromium	ND		5.0		0.65	ug/L			03/24/11 11:08		1
Sodium	ND		2000		280	ug/L			03/24/11 11:08		1

# Quality Control Data

Client: Olin Corporation  
Project/Site: Olin Chemical Surface water Quarterly

TestAmerica Job ID: 360-32829-1

## Method: 6010B - Dissolved Metals (Continued)

**Lab Sample ID: LCS 360-70948/13**

**Matrix: Water**

**Analysis Batch: 70948**

**Client Sample ID: LCS 360-70948/13**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS		Unit	D	% Rec.		Limits	RPD	1
		Result	Qualifier			% Rec.				
Aluminum	5000	5040		ug/L		101	80 - 120			6
Chromium	1000	1000		ug/L		100	80 - 120			7
Sodium	20000	20100		ug/L		100	80 - 120			8

**Lab Sample ID: LCSD 360-70948/26**

**Matrix: Water**

**Analysis Batch: 70948**

**Client Sample ID: LCSD 360-70948/26**

**Prep Type: Total/NA**

Analyte	Spike Added	LCSD		Unit	D	% Rec.		RPD	1
		Result	Qualifier			% Rec.	Limits		
Aluminum	5000	5020		ug/L		100	80 - 120	0	20
Chromium	1000	993		ug/L		99	80 - 120	1	20
Sodium	20000	19700		ug/L		99	80 - 120	2	20

## Method: 300.0 - Nitrate & Nitrite

**Lab Sample ID: MB 360-70962/5**

**Matrix: Water**

**Analysis Batch: 70962**

**Client Sample ID: MB 360-70962/5**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac	1
Nitrate as N	ND		0.050	0.050	mg/L			03/23/11 06:46		
Nitrite as N	ND		0.010	0.010	mg/L			03/23/11 06:46		

**Lab Sample ID: LCS 360-70962/6**

**Matrix: Water**

**Analysis Batch: 70962**

**Client Sample ID: LCS 360-70962/6**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS		Unit	D	% Rec.		RPD	1
		Result	Qualifier			% Rec.	Limits		
Nitrate as N	4.00	3.86		mg/L		97	85 - 115		
Nitrite as N	4.00	3.92		mg/L		98	85 - 115		

**Lab Sample ID: MB 360-71003/5**

**Matrix: Water**

**Analysis Batch: 71003**

**Client Sample ID: MB 360-71003/5**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac	1
Sulfate	ND		2.0	2.0	mg/L			03/23/11 06:46		
Chloride	ND		1.0	1.0	mg/L			03/23/11 06:46		

**Lab Sample ID: LCS 360-71003/6**

**Matrix: Water**

**Analysis Batch: 71003**

**Client Sample ID: LCS 360-71003/6**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS		Unit	D	% Rec.		RPD	1
		Result	Qualifier			% Rec.	Limits		
Sulfate	80.0	82.2		mg/L		103	85 - 115		
Chloride	40.0	40.6		mg/L		101	85 - 115		

# Quality Control Data

Client: Olin Corporation

Project/Site: Olin Chemical Surface water Quarterly

TestAmerica Job ID: 360-32829-1

## Method: 300.0 - Nitrate & Nitrite (Continued)

**Lab Sample ID:** MB 360-71004/3

**Matrix:** Water

**Analysis Batch:** 71004

**Client Sample ID:** MB 360-71004/3

**Prep Type:** Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.050	0.050	mg/L			03/23/11 16:48	1
Nitrite as N	ND		0.010	0.010	mg/L			03/23/11 16:48	1

**Lab Sample ID:** LCS 360-71004/4

**Matrix:** Water

**Analysis Batch:** 71004

**Client Sample ID:** LCS 360-71004/4

**Prep Type:** Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec.	Limits
Nitrate as N	4.00	4.06		mg/L		102	85 - 115
Nitrite as N	4.00	3.96		mg/L		99	85 - 115

**Lab Sample ID:** 360-32829-5 MS

**Matrix:** Water

**Analysis Batch:** 71004

**Client Sample ID:** OC-SW-PZ-17RRSW

**Prep Type:** Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec.	Limits
Nitrate as N	2.0		10.0	12.7		mg/L		108	75 - 125
Nitrite as N	ND		10.0	10.1		mg/L		101	75 - 125

**Lab Sample ID:** 360-32829-5 MSD

**Matrix:** Water

**Analysis Batch:** 71004

**Client Sample ID:** OC-SW-PZ-17RRSW

**Prep Type:** Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec.	RPD	RPD Limit	
Nitrate as N	2.0		10.0	11.4		mg/L		94	75 - 125	12	20
Nitrite as N	ND		10.0	9.05		mg/L		91	75 - 125	11	20

**Lab Sample ID:** MB 360-71005/3

**Matrix:** Water

**Analysis Batch:** 71005

**Client Sample ID:** MB 360-71005/3

**Prep Type:** Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		2.0	2.0	mg/L			03/23/11 16:48	1
Chloride	ND		1.0	1.0	mg/L			03/23/11 16:48	1

**Lab Sample ID:** LCS 360-71005/4

**Matrix:** Water

**Analysis Batch:** 71005

**Client Sample ID:** LCS 360-71005/4

**Prep Type:** Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec.	Limits
Sulfate	80.0	84.1		mg/L		105	85 - 115
Chloride	40.0	42.4		mg/L		106	85 - 115

**Lab Sample ID:** 360-32829-5 MS

**Matrix:** Water

**Analysis Batch:** 71005

**Client Sample ID:** OC-SW-PZ-17RRSW

**Prep Type:** Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec.	Limits
Sulfate	120		200	364		mg/L		120	75 - 125
Chloride	160		100	286		mg/L		123	75 - 125

TestAmerica Westfield

# Quality Control Data

Client: Olin Corporation  
Project/Site: Olin Chemical Surface water Quarterly

TestAmerica Job ID: 360-32829-1

## Method: 300.0 - Chloride & Sulfate (Continued)

**Lab Sample ID: 360-32829-5 MSD**

**Matrix: Water**

**Analysis Batch: 71005**

**Client Sample ID: OC-SW-PZ-17RRSW**

**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	% Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier			% Rec.		
Sulfate	120		200	322		mg/L		99	75 - 125	12
Chloride	160		100	258		mg/L		96	75 - 125	10

## Method: L107-06-1B - Nitrogen Ammonia

**Lab Sample ID: MB 360-71263/1-A**

**Matrix: Water**

**Analysis Batch: 71427**

**Client Sample ID: MB 360-71263/1-A**

**Prep Type: Total/NA**

**Prep Batch: 71263**

Analyte	MB	MB	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Ammonia	ND		0.10	0.10	mg/L		03/31/11 11:59	04/04/11 13:27	1

**Lab Sample ID: LCS 360-71263/2-A**

**Matrix: Water**

**Analysis Batch: 71427**

**Client Sample ID: LCS 360-71263/2-A**

**Prep Type: Total/NA**

**Prep Batch: 71263**

Analyte	Spike	LCS	LCS	Unit	D	% Rec.
	Added	Result	Qualifier			% Rec.
Ammonia	10.0	9.41		mg/L		94

## Method: SM 2510B - Conductivity, Specific Conductance

**Lab Sample ID: MB 360-71404/3**

**Matrix: Water**

**Analysis Batch: 71404**

**Client Sample ID: MB 360-71404/3**

**Prep Type: Total/NA**

Analyte	MB	MB	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Specific Conductance	ND		1.0	1.0	umhos/cm			04/04/11 11:04	1

**Lab Sample ID: LCS 360-71404/1**

**Matrix: Water**

**Analysis Batch: 71404**

**Client Sample ID: LCS 360-71404/1**

**Prep Type: Total/NA**

Analyte	Spike	LCS	LCS	Unit	D	% Rec.
	Added	Result	Qualifier			% Rec.
Specific Conductance	1410	1400		umhos/cm		99

**Lab Sample ID: 360-32829-1 DU**

**Matrix: Water**

**Analysis Batch: 71404**

**Client Sample ID: OC-SW-ISCO1**

**Prep Type: Total/NA**

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier						
Specific Conductance	700		697		umhos/cm		0	20

**Lab Sample ID: MB 360-71443/3**

**Matrix: Water**

**Analysis Batch: 71443**

**Client Sample ID: MB 360-71443/3**

**Prep Type: Total/NA**

Analyte	MB	MB	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Specific Conductance	ND		1.0	1.0	umhos/cm			04/04/11 16:33	1

# Quality Control Data

Client: Olin Corporation

Project/Site: Olin Chemical Surface water Quarterly

TestAmerica Job ID: 360-32829-1

## Method: SM 2510B - Conductivity, Specific Conductance (Continued)

Lab Sample ID: LCS 360-71443/1

Matrix: Water

Analysis Batch: 71443

Client Sample ID: LCS 360-71443/1

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec.	Limits
Specific Conductance	1410	1440		umhos/cm		102	85 - 115

Lab Sample ID: 360-32829-7 DU

Matrix: Water

Analysis Batch: 71443

Client Sample ID: OC-SW-SD-17

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Specific Conductance	940		936		umhos/cm		0	20

Instrument Dilution Log Book

Analysts Initials	Date	Lab sample ID	Method/Analyte	Initial Sample Volume	Final Sample Volume	Final Dilution	Comments
RME	3-22-11	32829C1	300 - 280	(ml)	10ml	10X	C <sub>9</sub> <sup>-</sup> over-range
		C2					
		C3					
		C4					C <sub>9</sub> <sup>-</sup> & SO <sub>4</sub> <sup>2-</sup> over-range
		32829C1	300 - 484P	(ml)	10ml	10X	NO <sub>3</sub> <sup>-</sup> co-elution with C <sub>9</sub> <sup>-</sup>
		C2					
		C3					
		C4					
		32829C5					
		C6					
		C7					
		32829C5	300 - 280	(ml)	10ml	10X	C <sub>9</sub> <sup>-</sup> & SO <sub>4</sub> <sup>2-</sup> over-range
		C6					
		C7					
		32831B1					
		B2					
		B3					
		B4					
		32852C1	300 - 280	(ml)	10ml	10X	C <sub>9</sub> <sup>-</sup> & SO <sub>4</sub> <sup>2-</sup> over-range
		C2					SO <sub>4</sub> <sup>2-</sup> over-range
		C3					C <sub>9</sub> <sup>-</sup> over-range
		C4					C <sub>9</sub> <sup>-</sup> & SO <sub>4</sub> <sup>2-</sup> over-range
		C5					SO <sub>4</sub> <sup>2-</sup> over-range
		500µL	10ml				

TestAmerica  
53 Southhampton Road  
Westfield MA

# Instrument Dilution Log Book

Analysts Initials	Date	Lab sample ID	Method/Analyte	Initial Sample Volume	Final Volume	Final Dilution	Comments
Rue	3-22-11	31829C1	300 - 280	1ml	10ml	10X	C <sub>2</sub> -over-range
		C2					
		C3					
		C4	<1				C <sub>2</sub> -& S <sub>04</sub> <sup>2-</sup> over-range
		31829 C1	300 - 484K	1ml	10 ml	10X	NH <sub>4</sub> <sup>+</sup> cor-dilution with C <sub>2</sub>
		C2					
		C3					
		C4	>1				
		C5	31829 C5				
		C6					C <sub>2</sub> -over-range
		C7					C <sub>2</sub> -& S <sub>04</sub> <sup>2-</sup> over-range
		31831 B1					S <sub>04</sub> <sup>2-</sup> over-range
		B2					C <sub>2</sub> -& S <sub>04</sub> <sup>2-</sup> over-range
		B3					
		B4					
		31829 C5	300 - 280				C <sub>2</sub> -& S <sub>04</sub> <sup>2-</sup> over-range
		C6					S <sub>04</sub> <sup>2-</sup> over-range
		C7					C <sub>2</sub> -over-range
		31831 B1					C <sub>2</sub> -& S <sub>04</sub> <sup>2-</sup> over-range
		B2					
		B3					
		B4					
		31852 C1	300 - 280	1ml	10ml	10X	C <sub>2</sub> -& S <sub>04</sub> <sup>2-</sup> over-range
		C2					S <sub>04</sub> <sup>2-</sup> over-range
		C3					C <sub>2</sub> -over-range
		C4					C <sub>2</sub> -& S <sub>04</sub> <sup>2-</sup> over-range
		C5					S <sub>04</sub> <sup>2-</sup> over-range
		C6					C <sub>2</sub> -over-range
		C7					
		31852 C1	300 - 280	1ml	10ml	10X	
		C2					
		C3					
		C4					
		C5					
		C6					
		C7					

TestAmerica  
53 Southampton Road  
Westfield, MA

BL-QA-022

## Instrument Dilution Log Book

Analysts Initials	Date	Lab sample ID	Method/Analyte	Initial Sample Volume	Final Sample Volume	Final Dilution	Comments
RME	3-22-11	32829C1	300 - 280	(ml)	10ml	10X	C <sub>9</sub> <sup>-</sup> over-range
		C2					
		C3					
		C4					C <sub>9</sub> <sup>-</sup> & SO <sub>4</sub> <sup>2-</sup> over-range
		32829C1	300 - 484P	(ml)	10ml	10X	NO <sub>3</sub> <sup>-</sup> co-elution with C <sub>9</sub> <sup>-</sup>
		C2					
		C3					
		C4					
		32829C5					
		C6					
		C7					
		32829C5	300 - 280	(ml)	10ml	10X	C <sub>9</sub> <sup>-</sup> & SO <sub>4</sub> <sup>2-</sup> over-range
		C6					
		C7					
		32831B1					
		B2					
		B3					
		B4					
		32852C1	300 - 280	(ml)	10ml	10X	C <sub>9</sub> <sup>-</sup> & SO <sub>4</sub> <sup>2-</sup> over-range
		C2					SO <sub>4</sub> <sup>2-</sup> over-range
		C3					C <sub>9</sub> <sup>-</sup> over-range
		C4					C <sub>9</sub> <sup>-</sup> & SO <sub>4</sub> <sup>2-</sup> over-range
		C5					SO <sub>4</sub> <sup>2-</sup> over-range
		500µl	10ml		20X		

TestAmerica  
53 Southhampton Road  
Westfield MA

Instrument Dilution Log Book

Analysts Initials	Date	Lab sample ID	Method/Analyte	Initial Sample Volume	Final Sample Volume	Final Dilution	Comments
RME	3-22-11	32829C1	300 - 280	(ml)	10ml	10X	C <sub>9</sub> <sup>-</sup> over-range
		C2					
		C3					
		C4					C <sub>9</sub> <sup>-</sup> & SO <sub>4</sub> <sup>2-</sup> over-range
		32829C1	300 - 484P	(ml)	10ml	10X	NO <sub>3</sub> <sup>-</sup> co-elution with C <sub>9</sub> <sup>-</sup>
		C2					
		C3					
		C4					
		32829C5					
		C6					
		C7					
		32829C5	300 - 280	(ml)	10ml	10X	C <sub>9</sub> <sup>-</sup> & SO <sub>4</sub> <sup>2-</sup> over-range
		C6					
		C7					
		32831B1					
		B2					
		B3					
		B4					
		32852C1	300 - 280	(ml)	10ml	10X	C <sub>9</sub> <sup>-</sup> & SO <sub>4</sub> <sup>2-</sup> over-range
		C2					SO <sub>4</sub> <sup>2-</sup> over-range
		C3					C <sub>9</sub> <sup>-</sup> over-range
		C4					C <sub>9</sub> <sup>-</sup> & SO <sub>4</sub> <sup>2-</sup> over-range
		C5					SO <sub>4</sub> <sup>2-</sup> over-range
		500µl	10ml		20X		

TestAmerica  
53 Southampton Road  
Westfield MA

# Lab Chronicle

Client: Olin Corporation  
 Project/Site: Olin Chemical Surface water Quarterly

TestAmerica Job ID: 360-32829-1

**Client Sample ID: OC-SW-ISCO1**

**Lab Sample ID: 360-32829-1**

Date Collected: 03/22/11 10:50

Matrix: Water

Date Received: 03/22/11 17:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			70861	03/23/11 09:30	EMN	TestAmerica Westfield
Total/NA	Analysis	6010B		1	70907	03/23/11 15:32	TJS	TestAmerica Westfield
Dissolved	Analysis	6010B		1	70948	03/24/11 11:59	TJS	TestAmerica Westfield
Total/NA	Analysis	300.0		1	70962	03/23/11 10:33	RWE	TestAmerica Westfield
Total/NA	Analysis	300.0		10	70962	03/23/11 10:48	RWE	TestAmerica Westfield
Total/NA	Analysis	300.0		1	71003	03/23/11 10:33	RWE	TestAmerica Westfield
Total/NA	Analysis	300.0		10	71003	03/23/11 10:48	RWE	TestAmerica Westfield
Total/NA	Analysis	SM 2510B		1	71404	04/04/11 11:06	RWE	TestAmerica Westfield
Total/NA	Prep	Distill/Ammonia			71263	03/31/11 11:59	RWE	TestAmerica Westfield
Total/NA	Analysis	L107-06-1B		1	71427	04/04/11 13:32	RWE	TestAmerica Westfield

**Client Sample ID: OC-SW-ISCO2**

**Lab Sample ID: 360-32829-2**

Date Collected: 03/22/11 09:25

Matrix: Water

Date Received: 03/22/11 17:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			70861	03/23/11 09:30	EMN	TestAmerica Westfield
Total/NA	Analysis	6010B		1	70907	03/23/11 15:46	TJS	TestAmerica Westfield
Dissolved	Analysis	6010B		1	70948	03/24/11 12:02	TJS	TestAmerica Westfield
Total/NA	Analysis	300.0		1	70962	03/23/11 11:03	RWE	TestAmerica Westfield
Total/NA	Analysis	300.0		10	70962	03/23/11 11:18	RWE	TestAmerica Westfield
Total/NA	Analysis	300.0		10	71003	03/23/11 11:18	RWE	TestAmerica Westfield
Total/NA	Analysis	SM 2510B		1	71404	04/04/11 11:09	RWE	TestAmerica Westfield
Total/NA	Prep	Distill/Ammonia			71263	03/31/11 11:59	RWE	TestAmerica Westfield
Total/NA	Analysis	L107-06-1B		1	71427	04/04/11 13:33	RWE	TestAmerica Westfield

**Client Sample ID: OC-SW-ISCO3**

**Lab Sample ID: 360-32829-3**

Date Collected: 03/22/11 09:15

Matrix: Water

Date Received: 03/22/11 17:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			70861	03/23/11 09:30	EMN	TestAmerica Westfield
Total/NA	Analysis	6010B		1	70907	03/23/11 15:55	TJS	TestAmerica Westfield
Dissolved	Analysis	6010B		1	70948	03/24/11 12:05	TJS	TestAmerica Westfield
Total/NA	Analysis	300.0		1	70962	03/23/11 11:33	RWE	TestAmerica Westfield
Total/NA	Analysis	300.0		10	70962	03/23/11 11:48	RWE	TestAmerica Westfield
Total/NA	Analysis	300.0		1	71003	03/23/11 11:33	RWE	TestAmerica Westfield
Total/NA	Analysis	300.0		10	71003	03/23/11 11:48	RWE	TestAmerica Westfield
Total/NA	Analysis	SM 2510B		1	71404	04/04/11 11:10	RWE	TestAmerica Westfield
Total/NA	Prep	Distill/Ammonia			71263	03/31/11 11:59	RWE	TestAmerica Westfield
Total/NA	Analysis	L107-06-1B		1	71427	04/04/11 13:34	RWE	TestAmerica Westfield

# Lab Chronicle

Client: Olin Corporation  
Project/Site: Olin Chemical Surface water Quarterly

TestAmerica Job ID: 360-32829-1

**Client Sample ID: OC-SW-PZ-16RRSW**

**Lab Sample ID: 360-32829-4**

Date Collected: 03/22/11 09:45

Matrix: Water

Date Received: 03/22/11 17:30

Prep Type	Batch Type	Batch Method	Dilution Run	Batch Factor	Prepared Number	Or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			70861	03/23/11 09:30	EMN	TestAmerica Westfield
Total/NA	Analysis	6010B		1	70907	03/23/11 15:58	TJS	TestAmerica Westfield
Dissolved	Analysis	6010B		1	70948	03/24/11 12:08	TJS	TestAmerica Westfield
Total/NA	Analysis	300.0		1	70962	03/23/11 12:03	RWE	TestAmerica Westfield
Total/NA	Analysis	300.0		10	70962	03/23/11 12:18	RWE	TestAmerica Westfield
Total/NA	Analysis	300.0		10	71003	03/23/11 12:18	RWE	TestAmerica Westfield
Total/NA	Analysis	SM 2510B		1	71404	04/04/11 11:11	RWE	TestAmerica Westfield
Total/NA	Prep	Distill/Ammonia			71263	03/31/11 11:59	RWE	TestAmerica Westfield
Total/NA	Analysis	L107-06-1B		1	71427	04/04/11 13:35	RWE	TestAmerica Westfield

**Client Sample ID: OC-SW-PZ-17RRSW**

**Lab Sample ID: 360-32829-5**

Date Collected: 03/22/11 10:05

Matrix: Water

Date Received: 03/22/11 17:30

Prep Type	Batch Type	Batch Method	Dilution Run	Batch Factor	Prepared Number	Or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			70861	03/23/11 09:30	EMN	TestAmerica Westfield
Total/NA	Analysis	6010B		1	70907	03/23/11 16:01	TJS	TestAmerica Westfield
Dissolved	Analysis	6010B		1	70948	03/24/11 12:10	TJS	TestAmerica Westfield
Total/NA	Analysis	300.0		1	70962	03/23/11 12:33	RWE	TestAmerica Westfield
Total/NA	Analysis	300.0		10	71004	03/23/11 17:19	RWE	TestAmerica Westfield
Total/NA	Analysis	300.0		10	71005	03/23/11 17:19	RWE	TestAmerica Westfield
Total/NA	Analysis	SM 2510B		1	71404	04/04/11 11:13	RWE	TestAmerica Westfield
Total/NA	Prep	Distill/Ammonia			71263	03/31/11 11:59	RWE	TestAmerica Westfield
Total/NA	Analysis	L107-06-1B		1	71427	04/04/11 13:36	RWE	TestAmerica Westfield

**Client Sample ID: OC-SW-PZ-18RSW**

**Lab Sample ID: 360-32829-6**

Date Collected: 03/22/11 10:40

Matrix: Water

Date Received: 03/22/11 17:30

Prep Type	Batch Type	Batch Method	Dilution Run	Batch Factor	Prepared Number	Or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			70861	03/23/11 09:30	EMN	TestAmerica Westfield
Total/NA	Analysis	6010B		1	70907	03/23/11 16:04	TJS	TestAmerica Westfield
Dissolved	Analysis	6010B		1	70948	03/24/11 12:13	TJS	TestAmerica Westfield
Total/NA	Analysis	300.0		1	71004	03/23/11 18:04	RWE	TestAmerica Westfield
Total/NA	Analysis	300.0		10	71004	03/23/11 18:19	RWE	TestAmerica Westfield
Total/NA	Analysis	300.0		1	71005	03/23/11 18:04	RWE	TestAmerica Westfield
Total/NA	Analysis	300.0		10	71005	03/23/11 18:19	RWE	TestAmerica Westfield
Total/NA	Analysis	SM 2510B		1	71404	04/04/11 11:14	RWE	TestAmerica Westfield
Total/NA	Prep	Distill/Ammonia			71263	03/31/11 11:59	RWE	TestAmerica Westfield
Total/NA	Analysis	L107-06-1B		1	71427	04/04/11 13:39	RWE	TestAmerica Westfield

TestAmerica Westfield

# Lab Chronicle

Client: Olin Corporation  
Project/Site: Olin Chemical Surface water Quarterly

TestAmerica Job ID: 360-32829-1

**Client Sample ID: OC-SW-SD-17**

**Lab Sample ID: 360-32829-7**

**Matrix: Water**

**Date Collected: 03/22/11 10:20**

**Date Received: 03/22/11 17:30**

Prep Type	Batch Type	Batch Method	Dilution Run	Batch Factor	Prepared Number	Or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			70861	03/23/11 09:30	EMN	TestAmerica Westfield
Total/NA	Analysis	6010B		1	70907	03/23/11 16:07	TJS	TestAmerica Westfield
Dissolved	Analysis	6010B		1	70948	03/24/11 12:16	TJS	TestAmerica Westfield
Total/NA	Analysis	300.0		1	71004	03/23/11 18:34	RWE	TestAmerica Westfield
Total/NA	Analysis	300.0		10	71004	03/23/11 18:49	RWE	TestAmerica Westfield
Total/NA	Analysis	300.0		10	71005	03/23/11 18:49	RWE	TestAmerica Westfield
Total/NA	Prep	Distill/Ammonia			71263	03/31/11 11:59	RWE	TestAmerica Westfield
Total/NA	Analysis	L107-06-1B		1	71427	04/04/11 13:39	RWE	TestAmerica Westfield
Total/NA	Analysis	SM 2510B		1	71443	04/04/11 16:34	RWE	TestAmerica Westfield

## Certification Summary

Client: Olin Corporation

Project/Site: Olin Chemical Surface water Quarterly

TestAmerica Job ID: 360-32829-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Westfield	Connecticut	State Program	1	PH-0494
TestAmerica Westfield	Florida	NELAC	4	E87912
TestAmerica Westfield	Maine	State Program	1	MA00014
TestAmerica Westfield	Massachusetts	State Program	1	M-MA014
TestAmerica Westfield	New Hampshire	NELAC	1	2539
TestAmerica Westfield	New Jersey	NELAC	2	MA008
TestAmerica Westfield	New York	NELAC	2	10843
TestAmerica Westfield	North Carolina	North Carolina DENR	4	647
TestAmerica Westfield	Rhode Island	State Program	1	LAO00057
TestAmerica Westfield	Vermont	State Program	1	VT-10843

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

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# State Accreditation Matrix

Method Name	Description	State where Primary Accreditation is Carried				
		New Hampshire (NELAC) prim.	Mass	Conn	Florida (NELAC)	North Carolina
821-R-02-012	Toxicity, Acute (48-Hour)(list upon request)	NP			NP	
SM 4500 CI F	Chlorine, Residual		NP			
SM 9215E	Heterotrophic Plate Count (SimPlate)		P			
SM 9222D	Coliforms, Fecal (Membrane Filter)		P/NP			
SM 9223	Coliforms, Total, and E.Coli (Colilert-P/A)		P			
SM 9224	Coliforms, Total, and E.Coli (Enumeration)		P			
1103.1	E.coli		ambient/source			
Enterolert	Enterococcus					
200.8 Rev 5.4	Metals (ICP/MS) (list upon request)	NP/P	NP/P	NP/P		
200.7 Rev 4.4	Metals (ICP)(list upon request)	NP/P	NP/P	NP/P		
6010B	Metals (ICP)(list upon request)	NP/SW		NP/SW		
245.1	Mercury (CVAA)	NP/P	NP	NP/P		
7470A	Mercury (CVAA)	NP		NP		
7471A	Mercury (CVAA)	SW		SW		
SM 2340B	Total Hardness (as CaCO <sub>3</sub> ) by calculation	NP/P	NP	NP/P		
3005A	Preparation, Total Recoverable or Dissolved Metals	NP/P		NP/P		
3010A	Preparation, Total Metals	NP/P		NP/P		
3020A	Preparation, Total Metals	NP/P/SW		NP/P/SW		
3050B	Preparation, Metals	SW		SW		
504.1	EDB, DBCP and 1,2,3-TCP (GC)	P	P	P		
608	Organochlorine Pest/PCBs (list upon request)	NP	NP	NP		
625	Semivolatile Org Comp (GC/MS)(list upon request)	NP		NP		
3546	Microwave Extraction	SW				
3510C	Liquid-Liquid Extraction (Separatory Funnel)	NP		NP		
3540C	Soxhlet Extraction	SW				
3550B	Ultrasonic Extraction	SW		SW		
600/4-81-045	Polychlorinated Biphenyls (PCBs) (GC)		NP	NP		
8081A	Organochlorine Pesticides (GC)(list upon request)	NP/SW		NP/SW		
8082	PCBs by Gas Chromatography(list upon request)	NP/SW		NP/SW		
8270C	Semivolatile Comp.(GC/MS)(list upon request)	NP/SW		NP/SW		
CT ETPH	Conn - Ext. Total petroleum Hydrocarbons (GC)			NP/SW		
MA-EPH	Mass - Extractable Petroleum Hydrocarbons (GC)			NP/SW	NP/SW	
524.2	Volatile Org Comp (GC/MS)(list upon request)	P	P	P		
524.2	Trihalomethane compounds	P	P	P		
624	Volatile Org Comp (GC/MS)(list upon request)	NP	NP	NP		
5035	Closed System Purge and Trap	SW		SW		
5030B	Purge and Trap	NP		NP		
8260B	Volatile Org Comp. (GC/MS)(list upon request)	NP/SW		NP/SW		
MAVPH	Mass - Volatile Petroleum Hydrocarbons (GC)			NP/SW	NP/SW	
180.1	Turbidity, Nephelometric	P	P	P		
300	Anions, Ion Chromatography	NP/P	NP/P	NP/P		
410.4	COD	NP	NP	NP		
1010	Ignitability, Pensky-Martens Closed-Cup Method	SW		SW		
10-107-06-2	Nitrogen, Total Kjeldahl	NP	NP	NP		
7196A	Chromium, Hexavalent	NP/SW		NP/SW		
9012A	Cyanide, Total and/or Amenable	NP/SW		NP/SW		
9030B	Sulfide, Distillation (Acid Soluble and Insoluble)	NP		NP		
9040B	pH	NP		NP		
9045C	pH	SW		SW		
L107041C	Nitrogen, Nitrate	NP	P	NP/P		
L107-06-1B	Nitrogen Ammonia	NP	NP	NP/P		
L204001A CN	Cyanide, Total	P	NP/P	NP/P		
L210-001A	Phenolics, Total Recoverable	NP	NP	NP		
SM 2320B	Alkalinity	NP/P	NP/P	NP/P		
SM 2510B	Conductivity, Specific Conductance	NP/P	NP/P	NP/P		
SM 2540C	Solids, Total Dissolved (TDS)	NP/P	NP/P	NP/P		
SM 2540D	Solids, Total Suspended (TSS)	NP	NP	NP		
SM 3500 CR D	Chromium, Hexavalent	NP		NP		
SM 4500 H+ B	pH	NP/P	NP/P	NP/P		
SM 4500 NO <sub>2</sub> B	Nitrogen, Nitrite	NP	P	NP/P		
SM 4500 P E	Phosphorus, Orthophosphate	NP/P	NP	NP/P		
SM 4500 P E	Phosphorus, Total	NP	NP	NP		
SM 4500 S2 D	Sulfide, Total	NP		NP		
SM 5210B	BOD, 5-Day	NP	NP	NP		
SM 5310B	Organic Carbon, Total (TOC)	NP/P	NP	NP/P		

Not all organic compounds are accredited under NELAC

For methods with multiple compounds all compounds may not meet NELAC criteria, listing should be obtained from the laboratory

The lab carries additional accreditations with several states. This is the laboratories typical listing but is subject to change based on the laboratories current certification standing.

## Login Sample Receipt Checklist

Client: Olin Corporation

Job Number: 360-32829-1

**Login Number:** 32829

**List Source:** TestAmerica Westfield

**List Number:** 1

**Creator:** Ard, Vanessa L

Question	Answer	Comment	
Radioactivity either was not measured or, if measured, is at or below background	N/A		1
The cooler's custody seal, if present, is intact.	N/A		2
The cooler or samples do not appear to have been compromised or tampered with.	True		3
Samples were received on ice.	True		4
Cooler Temperature is acceptable.	True		5
Cooler Temperature is recorded.	True		6
COC is present.	True		7
COC is filled out in ink and legible.	True		8
COC is filled out with all pertinent information.	True		9
Is the Field Sampler's name present on COC?	True		10
There are no discrepancies between the sample IDs on the containers and the COC.	True		11
Samples are received within Holding Time.	True		12
Sample containers have legible labels.	True		13
Containers are not broken or leaking.	True		14
Sample collection date/times are provided.	True		
Appropriate sample containers are used.	True		
Sample bottles are completely filled.	True		
Sample Preservation Verified	True		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True		
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A		
If necessary, staff have been informed of any short hold time or quick TAT needs	True		
Multiphasic samples are not present.	True		
Samples do not require splitting or compositing.	True		

TestAmerica Westfield

Westfield Executive Park 53 Southampton Road  
Westfield, MA 01085

## Chain of Custody Record

estAmerica